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#### **CLMPTO**

#### 09939517

#### Cancel claims 1 thur 19

20. S method Inc detecting lighting flicker is 44 volume of a visco imaging device having 3 main picture 8000 maggressing an array of picula for producing amonabile 184900 at a force rate, the method companion:

producing a merico of signals from at least one

additional planure area adjacent the main planure area, the actions one additional planure ever having a plan substantially larger sham a panel, with each algorithmic a lancature of light incident on the exclusion and allows are additional planure area in a term period substantially shouter than the frame rate;

accessiating a predetermined number of the series of signals to form a series of oregonal amplear and

ciliaring the sector of compared temples to Materia composition indicating the lighting dischar.

- of, a merical according to Claim 30, wherein the time person is equivalent to a line term of the waim pidosts 8000:
- 22. A second according to Claim 90, wherein the St Least one additional micross area comprises a photolity of edditional picture areas.
- 2). A sectiod according to Claim 20, wherein the filtering is performed by a bandpase filter curve to a frequency of the lighting filters.
- 24. 3 sectors eccording to Claim 20. wherein watch compound sample is formed at a sample rate which is a sufficient a company and wherein the situating companies timing a fundamental output component of a sadia-8 becautily.
- gf, g method soccysing to Claim 34, wherein W is equal to at least one of N and A. .
  - 28. 2 method according to Claim 14. Wherein the

indumental cooper component empiricable as instantoneous complex lighting fileker energy X, with X being everages ever time to precious a languar term ascimula K' of a lighting fileker energy.

27. A method according to Claim  $2\delta_{\rm F}$  wherein the tanges corn estimate  $8^{\rm F}$  of the highting flicker energy is prospeced according to

share p is a hims complete.

38. A method associated Claim 26, Souther compatitions deriving a medalize of E'r and magazing the derived modulus to a threshold T to give a final excitation of the lighting flicker being present if 18712 T.

38. A method amounderny Claim 28. Derbiner comprising unimaking on appropria satisfing for the unim picture when for recogning the lighting flicker.

16. A method for reducing lighting flictors in an output of a video imaging device arrive a math pictors area computating an except of pixels for producing accountive images at a frame rate, the method computating:

detecting the lighting flicker in the emoput of the video langing derica, the detecting comprising

producing a sected of signals from at least und agginisat pictore area adjacent the main pictore

area, the at least one additional pitters area having a size ambacabilely larger than a pixel, with each aignal being a function of light incident on the at least one additional picture area is a time period acherosticity shorter thus that of the lease hate.

accomplaning a presentational resolvent of the series of algorith to form a series of compound sangles, and

filtering the series of compound samples to debent components indicating the lighting filesers and

sujecting an exposure setting for the main picture area for sectoring the lighting filicies.

31. A method according to Claim 28, whereath melousing the empeasure setting complises defecting an exposure period which is an inverse of a frequency of the fighting flower.

32. A method according to Claim 31, wherein the fragmency of the sighting filther invinces a bespect thereof.

33. A merhod accreding to Claim 10. wherein the time period is enricated to a line rate of the main sitture area.

le. A mercod according to thate 39, wherein the at least pen additional picture area comparings a picturity of admitional picture areas.

35. A method amounding to Class 30, wherein the

illhering to performed by a bandpure filter tweed to a tragmancy of the lighting diluter.

ld. A method according to Claim 30, wherein with compound sample is formed at a marple rate which is a multiple of a nominal lighting Chicker Frequency; and wherein the taltaxing compulses taking a fundamental matter component of a media-d Anthorfy.

32. A second according to Claim 34, wherein H is equal to at least the of 3 and 4.

JE, A method numering to Claim 38, Whitele The fundamental except component tepresents as instances was associate lighting flicter energy E, with E being decompositives time to produce a longer term estimate E' DE S Highling Clicker energy.

39. A method according to Claim 39. Wherein the temper term extincts E' of the lighting fileber woordy is produced according to

2" - 24 • 2" (1 · 2)

where p is a time service.

43. A marked appropriate Claim NB. Earther comparising:

decrease a modeles of E'r and

comparing the decrease models to a charmhold T to

give a final evolutation of the lighting fillEar being present
if 32's Y.

flitering to partormed by a bandpuss filter (when to a tragmancy of the lighting filther.

ld. A method according to Claim 36, wherein shell compound sample is formed at a sample into which is a Sillipix of a nemnal lighting (licker Frequency) and wherein the Silliping complians taking a furnishmental scopul component of a main will be be sufficient withouthy.

31. A serious according to Cinim 36, whereto 4 is equal to at least one of 3 and 4.

JE, a method summaring to Claim 39, Wherein the fundamental account component tepresents an instructaneous ammeter ligating fitcher energy E, with E being discrepant over time to produce a language term wathank E' of a lighting Claims whosey.

39. A method according to Claim 38. wherein two longer term actimate 5' of the lighting flicker analy is greduced according to

alman y is a time morebent.

40. A merhod oppositing fixing NV. Surther comprising:
deriving a medicine of N' ) and
comparing the derived modelon to a chronical Y to
give a final enclosation of the lighting filther being present
17 (87) > Y.

- ii. A method according Claim 23, forther comprising selecting an emphasive variley for the main picture days for reducing the lighting discher.
- 32. A lighting filebox-detecting video CREATS comprising:

o swim picture area comprising as array of pirels for producing successive images at 8 5000 10000

at least one additional pintone area adjacent and make picture area and having a size addetentially larger than a pixel, and at least one additional picture area being arranged for producing a votice of signals each of which is a function of light incident no said at leash one additional picture area in a cime posice schedulially shortes than that of the lease value

accomplates meson lar accomplation a producement compared number of size escises of eigents to form a series of compared adopted and

Eller means for Ellering the welles of compound acceptes for detecting components indivating the lighting flicture.

- is. A ridge common according to Claim 42, wherein said at least one soditional picture area is defined by a array of pixels summ one ride of aris erray.
- 48. 2 video camera according to Claim \$3, wherein two early of passia is a column of pinels of sold areas, with each size is the column being contented regarder.
  - 45. 8 video camera according to Class \$2. Yerther

comprising:

main gath amorot means for said main protuce area;

ammittees) gain community mass for seld at least one additional picture eres that is independent of said main gain control mesos.

- 46. A video camera someraing to Claim 42. Whereim and faller means complises a radia-5 betterily.
- 47. A widen camera according to Slaim 46. further comprising an averaging Siroust Estaected to an autput of the radia-8 burnerity.
- 48. A video comerc according to their 47. Abstell mand averaged discrit comprises a Theoretical actor operative faiter.
- $_{49},\ 2$  wideo numero soverding to finia 42. Further compaining:
  - so acception exposure control elimits
- a second exposure control carbuit for settles an exposure perios which is an inverse of a frequency of the lighting filters of a harmonic thereof, and

control means for selectively connecting said exchangic expenses control closest and said accord separate control closest are for controlling expenses thereof based upon an entput of said filter season.

to. A state comman compatibility: a main package asso compositing an assay of pixals

For producing successive images at a frame 1900;

at least one additional picture area adjacent sold main picture area and having a situ anistantially larger than a pixel, and at least one additional picture area being arranges for protocing a series of signals with all which is a function at light incident on tale at least one additional picture area in a time posied substantially charter than that of the force rater

on promoditive discutt for surveyisting a productoral administration of two comins of signals to form a section of congruent sampless, and

a filter for Eiltering the vertex of component examples for deventing components indivating the lighting flicker.

it. A sideo comera according to Tiais 95, wherein maid at incet one additional picture area is defined by a strip of pixels from one side of said accep.

Ni. A video camero according to Claim 51, wavein the scarp of passio is a volume of pinels of skid order, with each pisel in the column being connected together.

 $99.\ 3$  vision cannot accounting to Claim 56. Further comprising:

a main gase control vicous for said main giotuse assus and

no másitional gair control circust for said at least one agrittoral pictura area shot le independent of eaid mais gair control official. FORMUS - ATMADES

Der productog successive årages at a frame race;

at least one ambitional plotume area ambedent sold main pinture area and having a size anharmatically larger than a pixel, sold at loose one ambitional picture area being arranged for producing a series of signals with at which is a function at light lecident on sais at least one additional picture area in a time posted schotmaticity abserve than that of the loose water

as accomplates direct for promodating a gradatermined maker of the marine of signals to form a bacies of compound template soid

a filter for Eltering the series of compound excepts for detecting tomponents indicating the lightens flicker.

51. A video comest according to Dials 56, wherein said at least one additional plutters area is defined by a strip of pixels from one side of said crasp.

37. A video opmess available to Claim 91, Marvein the essip of pixels is a volume of pixels 9% each array, with much pixel in the column being descented countries.

57. A simple capace according to Claim 56, Parthos Comprissings

a main gain control victor: for said whin picture  $\alpha_{\rm cont}$  and

we additional gate denoted dishift for said at least one ambitional picture area that is independent of each maje gain content divisit.

Not producted successive images at a frame rate;

at least one additional picture area adjacent said main pintupo anno and having a site anharmatically larges than a pixel, said at least one additional picture area being appropriate to provincing a parity of algorith about the which is a function at light lacidant on sain at least one additional picture area in a time posted substantially about than that of the Irana rates

an accomplator missout for summaisting a predetermined number of the nomins of signals to form a sector of temperate temperate subjects and

a filter for Eiltering the verses of compound easyles for detecting componence indicating the lightest flicker.

51. A video camera seconding to Diain 90. Wherein maid at least one additional pinture area is defined by a strap of pixels nown one wide of said array.

52. A video camero according to Claim 51, wherein the scrip of passis is a column of pixels of such array, with each pixel in the column being consected cognither.

19. A since cancer according to Claim 50, Farther comprising:

a woin gain control vicous for said main pisture asso; and

an additional gain control simult for said at least one additional picture area that is independent of each maje gain control circuit.

54. A views common according to Claim 55, Verrein wash filter computed a radio-s trainerfly.

35. A visco camera according to Claim 58, Eastern comparing an averaging attends commanted to an output of the radiant besteally.

56. A video camero accurding to Claim 59, wherein maid averaging structs competent a first-order 6000-109/0000199 filter.

 $\mathfrak{S}^{\bullet}$  . A video negacial enterthing to Claim S0, farther comparising:

an seconatic exposure control circuit for metting an exposure period which is me inverse of a frequency of the lighting fileher of a hermonic thereals and

a content classic tor entertively contenting wald accompain exposure control caracit and sold sensed exposure control at an act and act of the control ing exposure charact based upon an entert of said filter.